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# Livestock Transportation Costs in West Virginia





## CONTENTS

Summary and Conclusions .....	3
Introduction .....	7
Purposes .....	8
Cost Estimation .....	8
Truck Prices .....	8
Fixed Costs .....	9
Variable Costs .....	11
Cost Analysis .....	13
Cost of Owning and Operating New Trucks .....	14
Half-Ton Trucks .....	14
1 ½-Ton Trucks .....	17
Optimum Means of Livestock Transportation .....	19
Average Cost of Owning and Operating Used Trucks .....	21
Bibliography .....	26
Appendix .....	27

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## SUMMARY AND CONCLUSIONS

The two most popular truck sizes used in West Virginia for transporting livestock are the 1/2-ton and 1 1/2-ton sizes. The average transportation costs synthesized in this study were based on these two truck sizes. A major objective of this study was to estimate, under varying transportation situations, the total cost per animal unit per mile for transporting livestock by new 1/2-ton and 1 1/2-ton trucks and by used 1 1/2-ton trucks. The results of this analysis were presented so that individual farmers could compare their actual trucking costs with the operating costs of "efficient" model trucks derived in this study. Another objective of this study was to determine the most economical means of transporting livestock for specified numbers of annual miles driven under different transportation situations in the State.

The procedure used to accomplish these objectives was synthetic cost analysis or economic engineering. Data used in this study were based on information obtained from farmers, local truck dealers, local insurance companies, West Virginia University Agricultural Experiment Station, the Department of Motor Vehicles, the State Tax Commissioner, and existing publications on vehicle costs and livestock transportation.

In order to present the cost data synthesized in this study in a manner which facilitates cost comparisons to different actual transportation situations, the cost per animal unit per mile was estimated on the basis of three variables. The variables were: (1) miles driven annually; (2) the number of months of truck utilization; and (3) the number of animal units transported.

Due to the seasonal nature of livestock marketing, most animals are transported to market only during a three-month period each year. Therefore, trucking costs based on two assumptions were examined. First, costs were derived based on the assumption that the trucks would be used for other farm purposes during the off months, and second, they were derived with the assumption that the truck would only be utilized for livestock transportation. Average trucking cost was then considered on the basis of the number of animal units transported per mile. An "animal unit" was used here to convert the different species of animals transported (cattle, calves, hogs, sheep and lambs) to a uniform common denominator. One animal unit was equivalent to one cow, two calves, four hogs, or four sheep or lambs. This ratio was based on space requirements of each animal species.

The study indicated the annual fixed cost for operating a 1/2-ton truck was \$1,330.33 and for operating a 1 1/2-ton truck was \$854.45. The fixed cost items considered were depreciation, insurance, interest, a license fee, and property tax. Depreciation was the largest component of fixed costs for each of the truck sizes.

The variable cost was calculated on a per-mile basis and it was assumed the variable cost per mile would remain constant regardless of the number of annual miles driven. Variable cost per mile was 9.94 cents for the 1/2-ton truck and

12.74 cents for the 1 1/2-ton truck. The variable cost items included gasoline, oil, oil filter, air cleaner, grease, tires, repairs and maintenance, and labor. Labor and gasoline were the largest components of variable cost per mile for the model trucks.

Total cost per animal unit per mile is the sum of the total fixed cost and total variable cost per animal unit per mile. Total fixed cost per animal unit per mile was obtained by dividing annual fixed cost by selected annual mileages and by the number of animal units transported. Total variable cost per animal unit per mile was obtained by dividing variable cost per mile by the number of animal units transported.

Under the assumption that trucks were used for other purposes during the off months, the total cost per animal unit per mile of the 1/2-ton truck was \$1.15 cents for transporting two animal units (full capacity of 1/2-ton truck) three months per year for 20,000 annual miles. Under the same use conditions, the total cost per animal unit per mile was 6.91 cents for the 1 1/2-ton truck. However, when the 1 1/2-ton truck was operated at full capacity (ten animal units) for three months per year traveling 6,000 annual miles, the total cost per animal unit per mile was 1.63 cents.

When the trucks were not used for other purposes during the off months, the number of months of truck utilization was not a necessary consideration in an average cost analysis. Since the total fixed costs could only be attributed to the livestock enterprise they remained the same regardless of the number of months of use. The total cost per animal unit per mile was 6.89 cents for transporting two animal units by a new 1/2-ton truck for 20,000 annual miles. Under the same use conditions, the cost was 8.51 cents using a new 1 1/2-ton truck. When ten animal units are hauled by the 1 1/2-ton truck for 6,000 annual miles, the total cost per animal unit per mile is 2.70 cents assuming the truck is used only for livestock transportation.

The more economical of the two trucks was determined under the assumption that the truck was used three months per year for livestock transportation and for other purposes during the off-months. The 1/2-ton truck was more economical than the 1 1/2-ton truck for transporting 20 animal units or less a round-trip distance of 40 miles or less. The 1 1/2-ton model truck had the cost advantage for greater number of animal units transported greater distances. This evaluation took into effect the necessity of multiple trips to the destination since a 1/2-ton truck for example, must make five round trips in order to carry ten animal units to a particular destination.

Many livestock producers operate used trucks. Therefore, average cost of owning and operating used trucks in the State was examined. This cost analysis was limited to the 1 1/2-ton truck because the used 1 1/2-ton truck was found to be more popular than the used 1/2-ton truck. Four different ages of used 1 1/2-ton trucks (one, three, five, and seven years old), which were assumed to be utilized for other purposes during the off months, were considered in this study.



total cost per animal unit per mile for a used 1 1/2-ton truck transporting animal units 6,000 miles per year and which was used for other purposes during the off months ranged from 1.56 cents for a one-year-old truck to 1.52 cents, 1.45 cents, and 1.42 cents for three-, five-, and seven-year-old trucks, respectively.

Three general conclusions can be made from the results of this study: (1) total cost per animal unit per mile decreased at a decreasing rate as annual mileage increased; (2) total cost per animal unit per mile increased constantly as period of truck utilization increased each additional month with annual mileage remaining the same, and (3) total cost per animal unit per mile decreased as the number of animal units transported increased.

The costs incurred for the model trucks in this study appeared to be quite realistic according to evaluations by several livestock producers and Experiment Station personnel. They were determined, however, based on actual efficient operating conditions in the State. If the synthesized costs derived in this study are indicative of actual costs incurred by livestock producers in West Virginia a re-evaluation of farm management practices may be in order.

A large percentage of the livestock producers in the State are small in terms of livestock sold annually. This study showed that transportation costs incurred by small-volume producers account for a substantial portion of the margin between production cost and the selling price of livestock. This high transportation cost is probably the reason for the use of private trucking companies rather than farmer-owned livestock transportation, especially by the small-volume and part-time farmers. It appears that the small-volume livestock producers will have to continue hiring outside truckers until they become large enough, in terms of livestock produced annually, to economically support their own transportation facilities.

This study has provided detailed average cost data for transporting livestock under varying transportation situations in West Virginia. The results of this study could be useful for determining the optimum means of transporting livestock under different marketing conditions. These results should also be useful for individual livestock producers and marketing institutions in improving their economic well-being.



# Livestock Transportation Costs In West Virginia

CHEN-FEN LIN AND JOHN P. KUEHN

Transportation plays a key role in the modern marketing sector of the agricultural economy. Kohls said: "Adequate and efficient transportation is a cornerstone of our modern marketing system. The wide variety of food available in our grocery stores at all times of the year would not be possible without modern transportation."<sup>1</sup> He also emphasized that transportation factors could influence the sizes of market areas and the expansion of the potential market for agricultural products.<sup>2</sup>

"Trucks made their first mark in agricultural transportation by the movement of products from farms to initial markets. With the development of improved farm-to-market roads and the widespread ownership of trucks by farmers, trucking rapidly took over the greater part of the agricultural transportation job." Rail transportation is still used in the movement of fresh meat, frozen and fresh fruits and vegetables, and grain, but the diversion of business from rail to trucks apparently is still occurring.<sup>3</sup>

Trucks are now the dominant means of transporting livestock in the United States. In 1969 98.4 per cent of total receipts for cattle, 100 per cent of total receipts for hogs, and 96.6 per cent of total receipts for sheep and lambs at major markets were delivered by trucks.<sup>4</sup>

Capener and others<sup>5</sup> studied cattle transportation in the western United States. They indicated that: "That largest cost in marketing cattle is transportation. It represents an even larger part of marketing costs in the West than in other parts of the United States because of the greater distances cattle are shipped to market."<sup>6</sup> They also outlined the following "specific advantages of truck transportation":

(1) Nearly all areas in the United States, including most cattle ranches, are accessible to trucks; (2) the livestock shipper can own all or

<sup>1</sup>Richard L. Kohls, *Marketing of Agricultural Products* (third edition: New York: The Macmillan Company, 1967), p. 302.

<sup>2</sup>*Ibid.*

<sup>3</sup>*Ibid.*, p. 303.

<sup>4</sup>Automobile Manufacturers Association, *1971 Motor Truck Facts* (Detroit, Michigan: Automobile Manufacturers Association, Inc., 1971), p. 39.

<sup>5</sup>William N. Capener, et al., *Transportation of Cattle in the West*, Agricultural Experiment Station, Research Journal 25 (Laramie, Wyoming: University of Wyoming, 1969).

<sup>6</sup>*Ibid.*, p. 3.

part of the trucking equipment he uses, or he can hire commercial truckers as he needs them; (3) truck transportation reduces handling since livestock can be shipped on the same truck from their point of origin directly to their destination; (4) trucks usually are available almost anytime needed and on very short notice; (5) livestock spend less time in transit and as a result incur less shrinkage, and have a lower incidence of injury and death loss; (6) greater flexibility in the size of load is provided by trucks because trucks come in many sizes.<sup>7</sup>

## OBJECTIVES

Due to the importance of livestock transportation as a portion of the stock marketing bill and to the importance of livestock marketing in the state of West Virginia, the overall objective of this study was to evaluate the economic of farm transportation of livestock in West Virginia.

The specific objectives of this study were: (1) to synthesize estimates of annual fixed costs and the variable costs per mile of driving 1/2-ton and 3/4-ton trucks in the State; (2) to synthetically determine the total cost per animal unit per mile for new and used trucks transporting livestock in West Virginia under varying transport situations; and (3) to find the most economical means of livestock transportation in West Virginia over specified lengths of time under varying marketing conditions. This study should be advantageous to prospective new farmers as well as for those presently engaged in livestock marketing in West Virginia. The derived efficient data are presented so that farmers can make comparisons with actual operating costs.

## COST ESTIMATION

The synthetic method of cost analysis was used to estimate annual trucking costs in this study. The total cost of transporting livestock by trucks is the sum of fixed and variable costs. "Fixed costs result from ownership alone and will be incurred whether the truck is operated or not."<sup>8</sup> In this study fixed costs included depreciation, insurance, interest, a license fee, and property taxes. Variable costs depend on the number of miles driven and include such items as labor, gasoline, oil, oil filter, air cleaner, grease, repairs and maintenance, and tires.

### Truck Prices

The purchase price of a new truck will influence the transportation costs. This influence will be shown in the form of depreciation, interest, and operating costs.

According to interviews with livestock farmers in West Virginia, the most popular truck used in the State is the 1/2-ton pickup. The most common load

<sup>7</sup>*Ibid.*, p. 8.

<sup>8</sup>Daniel F. Capstick, *Cost of Owning and Operating Farm Trucks in Eastern Arkansas*, University of Arkansas, Agricultural Experiment Station, Bulletin 639 (Fayetteville, Arkansas: University of Arkansas, April, 1961), p. 4.

is the 1 1/2-ton chassis cab. Also, certain extra equipment is necessary for transporting livestock safely, according to the interviews. These extras include a V-8 engine and a wooden rack for 1/2-ton trucks and a V-8 engine, wooden rack, and wooden platform for 1 1/2-ton trucks.

The costs estimated in this study were for new trucks and equipment. Cost figures were based on information from the *Truck Blue Book* and from truck body contractors. A 1970 Chevrolet pickup with a gross vehicle weight ranging from 4,000 pounds to 5,800 pounds was considered as the 1/2-ton truck model to be used in this study. The investment cost of this truck was estimated to be \$2,599<sup>9</sup> which included the factory price of \$2,589 plus \$160 for the V-8 engine and \$150 for building a wooden rack to enclose the livestock on the truck. The 1970 Chevrolet chassis cab with a gross vehicle weight ranging from 10,000 pounds to 24,000 pounds was assumed to be the 1 1/2-ton truck model used in this study. The total investment cost was estimated to be \$4,810 which included a factory price of \$3,875, \$360 for the V-8 engine, \$250 for the wooden rack, and \$325 for building a wooden platform.<sup>10</sup>

#### c. Costs

Total fixed costs include charges for depreciation, insurance, interest, title fee, and property tax. Cost figures are presented in Table 1.

**Depreciation.** The useful life of the 1/2-ton and the 1 1/2-ton trucks was assumed to be four years and 12 years, respectively.<sup>11</sup> Annual depreciation was estimated to be 17.0 per cent of the factory price for the 1/2-ton truck and 7.8 per cent for the 1 1/2-ton truck.<sup>12</sup> Annual depreciation cost for the 1/2-ton truck was \$492.83 per year, and for the 1 1/2-ton truck \$376.14.

**Insurance.** The annual insurance cost was obtained from telephone interviews with several local insurance agencies in Morgantown, West Virginia. Rates used were found to be indicative of rates throughout the State. The insurance coverage used in this study included personal and property liability, medical payments, uninsured motorist, collision, and comprehensive. For the 1/2-ton truck the annual insurance cost was \$104.60, and for the 1 1/2-ton truck \$135.40.

**Interest.** Annual interest was computed on the basis of the truck's mid-life value which is the half-value of the truck investment cost. The prime bankers'

The truck costs estimated in this study did not include delivery charge or sales tax.

The data for gross vehicle weight, truck factory price, and the cost of the V-8 engine were taken from: *Truck Blue Book*, Official Used Truck Valuations, Effective January 1, 1971. The costs of wooden rack and of wooden platform were obtained from interviews with a truck body contractor in Goffs, West Virginia.

Capstick, *op. cit.*, pp. 6-7.

Computed from Capstick, *op. cit.*, pp. 17 and 20. A 1/2-ton truck with a four-year useful life depreciated \$357 per year. The new truck cost was \$2,100. The annual depreciation percentage was \$357 divided by \$2,100 = 17 per cent. For a 1 1/2-ton truck with a 12-year use life the annual depreciation cost was \$223. The annual depreciation percentage of the truck factory price was \$223 divided by \$2,850 = 7.82 per cent.



TABLE 1  
Estimated Annual Fixed Costs for 1/2-Ton and for  
1 1/2-Ton Trucks Used for Transporting Livestock  
in West Virginia, 1970

Fixed Cost Items	Truck Size	
	1/2 Ton	1 1/2 Ton
Depreciation <sup>a</sup>	\$492.83	\$376.14
Insurance <sup>b</sup>	104.60	135.40
Interest <sup>c</sup>	110.16	182.78
License Fee <sup>d</sup>	22.50	100.00
Property Tax <sup>e</sup>	36.24	60.13
Total Fixed Cost	\$766.33	\$854.45

<sup>a</sup> Computed on the basis of new truck factory price at an annual depreciation percent 17.0 per cent for 1/2-ton truck and 7.8 per cent for 1 1/2-ton truck. Source: Computed from Daniel F. Capstick, *Cost of Owning and Operating Farm Trucks in Eastern Arkansas*, University of Arkansas Agricultural Experiment Station, Bulletin 639 (Fayetteville, Arkansas: University of Arkansas, April, 1961), pp. 17 and 20. The new truck factory price was \$2,899 for 1/2-ton truck and \$4,810 for 1 1/2-ton truck. Source: *Truck Book*, Official Used Truck Valuation, Effective January 1-June 30, 1971.

<sup>b</sup> Annual insurance costs were obtained from a local insurance agency in Morgantown, West Virginia, on the basis of following insurance coverages:

- (a) Personal and property liability — 100/300/50
- (b) Medical payment — \$2,000
- (c) Uninsured motorist — \$10,000 for one person  
Uninsured motorist — \$20,000 for two persons
- (d) Collision — \$100 deductible
- (e) Comprehensive — full coverage

<sup>c</sup> Annual interest was computed at a rate of 7.6 per cent on the basis of mid-life value of trucks.

<sup>d</sup> License fees were computed on the basis of gross vehicle weight ranging from 8,000 pounds to 8,000 pounds for 1/2-ton truck and 19,500 pounds for 1 1/2-ton truck. Source: *Schedule of Motor Vehicle Fees for All Classes*, State of West Virginia, John M. Haden, Commissioner, Department of Motor Vehicles, Effective July 1, 1970.

<sup>e</sup> Computed on basis of mid-life value of trucks at a tax rate of \$2.50 per \$100 appraised value. Source: Data from State of West Virginia, Charles H. Haden II, Tax Commissioner.



placements rate in March 1970 of 7.6 per cent was used to determine the annual interest cost for the trucks in this study.<sup>13</sup> The annual interest for the 1/2-ton truck was \$110.16, and \$182.78 for the 1 1/2-ton truck.

**License fee.** The annual fee for a B-class<sup>14</sup> license for the 1/2-ton truck was \$50 which was based on the assumed gross vehicle weight ranging from 4,001 pounds to 8,000 pounds. The average gross vehicle weight of the 1 1/2-ton truck considered in this study was 19,500 pounds and according to this weight the license fee was \$100 annually.<sup>15</sup>

**Property tax.** The property taxes were calculated at a tax rate of \$2.50 per \$100 of appraised value.<sup>16</sup> The appraised value was assumed to be the mid-life value of the truck. The annual property tax was calculated to be \$36.24 for the 1/2-ton truck and \$60.13 for the 1 1/2-ton truck.

Total fixed cost per year does not change as the number of miles driven changes. The total annual fixed costs synthesized for the 1/2-ton truck and for the 1 1/2-ton truck were \$766.33 and \$854.45, respectively. Depreciation was the largest component of fixed costs for each of the trucks. Interest and license were the second and the third largest cost components.

#### Variable Costs

Variable costs included gasoline, oil, oil filter, air cleaner, grease, tires, repairs and maintenance, and labor. The variable costs estimated for operating 1/2-ton trucks and 1 1/2-ton trucks in West Virginia are presented in Table 2. The retail cost of gasoline was obtained through interviews with wholesale gasoline distributors in West Virginia. The costs of oil, oil filter, air cleaner, grease, tires, and repairs and maintenance were obtained from published sources for transportation costs. Labor costs were obtained from the Farm Labor report for April 1970<sup>17</sup> and from various research projects.

The variable costs were calculated on a per-mile basis and it was assumed the variable cost per mile would remain constant regardless of the number of annual miles driven. Variable cost per mile was 9.94 cents for the 1/2-ton truck and 12.4 cents for the 1 1/2-ton model (Table 3). Labor and gasoline were the largest components of variable cost per mile for the two truck sizes studied. Repairs, and repairs and maintenance were the third and the fourth largest variable cost components.

<sup>13</sup>United States Department of Commerce, *Statistical Abstract of the United States* 1970, Bureau of the Census (Washington: U. S. Government Printing Office, 1970), p. 453.

<sup>14</sup>Class B vehicles are classified as motor vehicles designated as trucks, truck tractors, or tractor trailers other than those leased or operated for compensation.

<sup>15</sup>*Schedule of Motor Vehicle Fees for All Classes*, State of West Virginia, John M. Hatfield, Commissioner, Department of Motor Vehicles, Effective July 1, 1970.

<sup>16</sup>Source: Data from Charles H. Haden II, Tax Commissioner, State of West Virginia.

<sup>17</sup>U. S. Department of Agriculture, *Farm Labor*, Statistical Reporting Service, La 1-100, Washington: April, 1970.

TABLE 2  
Estimated Variable Cost For Operating 1/2-Ton  
Trucks and 1 1/2-Ton Trucks In  
West Virginia, 1970

Cost Items	Truck Size	
	1/2-Ton	1 1/2-Ton
Gasoline		
Price per gallon (cents) <sup>a</sup>	37.90	37.90
Miles per gallon <sup>b</sup>	12	8
Oil		
Quarts per 4,000 miles <sup>b</sup>	6	7
Price per quart (cents) <sup>a</sup>	85.00	85.00
Oil Filter		
Frequency of change (miles) <sup>b</sup>	8,000	8,000
Cost per filter (dollars) <sup>a</sup>	3.00	3.00
Air Cleaner		
Frequency of change (miles) <sup>a</sup>	6,000	6,000
Cost per cleaner (dollars) <sup>a</sup>	5.70	5.70
Grease		
Frequency of greasing (miles) <sup>b</sup>	2,000	2,000
Cost of greasing (dollars) <sup>b</sup>	1.50	1.50
Tires		
Cost per mile (cents) <sup>b</sup>	1.00	1.75
Repairs & Maintenance		
Cost per mile (cents) <sup>b</sup>	1.00	1.37
Labor		
Cost per hour (dollars) <sup>c</sup>	1.66	1.66
Miles driven per hour <sup>d</sup>	37.3	37.3

<sup>a</sup> From interviews with wholesale gasoline distributors in West Virginia.

<sup>b</sup> Adjusted from Robert L. Jack and Ahmad Abdul Kader, *Cost of Collecting Eggs from Farms by Firms Located in West Virginia*, West Virginia University Agricultural Experiment Station, Bulletin 571 (Morgantown, West Virginia: West Virginia University, February, 1969), p. 35.

<sup>c</sup> Source: U. S. Department of Agriculture, *Farm Labor*, Statistical Reporting Service, (4-70). (Washington: April, 1970).

<sup>d</sup> Source: H. C. Kriesel, *Factors Affecting the Competitive Position of the Poultry Industry in West Virginia and in Other Regions*, West Virginia University Agricultural Experiment Station, Bulletin 529T (Morgantown, West Virginia: West Virginia University, June, 1970), p. 28.

**TABLE 3**  
**Estimated Variable Cost Per Mile For Transporting**  
**Livestock by 1/2-Ton and 1 1/2-Ton Trucks in**  
**West Virginia, 1970<sup>a</sup>**

Items	Truck Size	
	1/2 Ton	1 1/2 Ton
	cents per mile	
oline	3.1580	4.7380
	0.1280	0.1490
Filter	0.0375	0.0375
Cleaner	0.0950	0.0950
ase	0.0750	0.1500
s	1.0000	1.7500
airs & Maintenance	1.0000	1.3700
or	4.4500	4.4500
al Cost per Mile	9.9435	12.7395

Source: Computed from Table 2.

### COST ANALYSIS

Efficiency and costs of transportation are of interest to all farmers transporting livestock. Capstick said: "Cost per mile is the typical method of measuring economy of automotive vehicle operation."<sup>18</sup> In this section total cost per animal unit per mile for new and used trucks transporting livestock in West Virginia will be analyzed. Because farmers transport different species of animals, a common "animal unit" was used to facilitate average cost comparisons. Kuehn noted that: "... an animal unit consisted of one 'cattle' or two pigs, or four hogs, or four sheep or lambs. This ratio was based on the space requirement of cattle of 20 square feet each, calves ten square feet each, and pigs, sheep and lambs five square feet each."<sup>19</sup> Farmers should be able to compare the actual total cost per animal unit per mile for transporting livestock on their own trucks to the average cost incurred by the "efficient" model trucks synthesized in this study over selected annual mileages and different marketing situations.

<sup>18</sup>Capstick, *op. cit.*, p.9

<sup>19</sup>John P. Kuehn, *Costs and Efficiencies of Model Livestock Auctions in West Virginia*, West Virginia University, Agricultural Experiment Station, Bulletin 606 (Morgantown, West Virginia: West Virginia University, December, 1971), p. 6.

## THE COST OF OWNING AND OPERATING NEW TRUCKS

According to interviews with local truck dealers and farmers, a full load at full capacity of a 1/2-ton truck is two animal units and the full capacity of a 1 1/2-ton truck is ten animal units. Since livestock marketing in West Virginia is extremely seasonal,<sup>20</sup> the utilization of trucks is concentrated in the peak marketing period. Wilson and Kuehn recorded that: "The peak sales period for the ruminants (cattle, calves, and sheep and lambs) occurred in the months of September, October, and November. By contrast, hogs maintained a relatively even market flow throughout the year."<sup>21</sup>

Truck costs were analyzed in this study under two different assumptions:

(1) Trucks were utilized for other purposes during the off months (when few if any animals are marketed). This assumption had the effect of spreading out the fixed costs over a 12-month period while livestock were only transported during a two- or three-month period.

(2) Trucks were only used for transporting livestock and would not be utilized for other purposes during the off months.

In this study, total cost per animal unit per mile for transporting livestock by 1/2-ton and 1 1/2-ton trucks was analyzed based on three variables: (1) miles driven annually to transport livestock to market; (2) the number of months of truck utilization; and (3) the number of animal units transported.

### Half-Ton Trucks

*Trucks utilized during the off months.* Normally, 1/2-ton trucks were driven an average of about 20,000 miles per year.<sup>22</sup> As described before, the peak marketing period for cattle, calves, and sheep and lambs was a three-month period in the late summer and fall. Under these use conditions, the total cost per animal unit per mile was 10.90 cents for transporting one animal unit or 54.50 cents for transporting two animal units (Tables 4 and 5). If the truck was also utilized for other purposes during the remaining months, with an equivalent 20,000 annual miles, the total cost would increase to 13.77 cents per animal unit per mile for transporting one animal unit or 68.89 cents per animal unit per mile for transporting two animal units. Tables 4 and 5 indicate that total cost per animal unit per mile will increase constantly as the period of truck utilization for livestock transportation increases an additional month with annual mileage remaining the same.

<sup>20</sup>For a more complete discussion of the seasonal variations in livestock marketing in West Virginia, see E. MacLellan Wilson and John P. Kuehn, *A Cost Analysis of the Livestock Auction Markets in West Virginia*, West Virginia University Agricultural Experiment Station Bulletin 600T (Morgantown, West Virginia: West Virginia University, April, 1971), 21-23.

<sup>21</sup>*Ibid.*, p. 21.

<sup>22</sup>Capstick, *op. cit.*, p. 9.

Total Miles Driven Annually Transporting Livestock	Months of Utilization											
	1	2	3	4	5	6	7	8	9	10	11	12
	cents											
500	22.71	35.48	48.26	61.03	73.80	86.57	99.35	112.12	124.89	137.66	150.43	163.21
1,000	16.33	22.71	29.10	35.48	41.87	48.26	54.64	61.03	67.41	73.80	80.19	86.57
1,500	14.20	18.45	22.71	26.97	31.23	35.48	39.74	44.00	48.26	52.51	56.77	61.03
2,000	13.13	16.33	19.52	22.71	25.91	29.10	32.29	35.48	38.68	41.87	45.06	48.26
4,000	11.54	13.13	14.73	16.33	17.92	19.52	21.12	22.71	24.31	25.91	27.50	29.10
6,000	11.00	12.07	13.13	14.20	15.26	16.33	17.39	18.45	19.52	20.58	21.65	22.71
8,000	10.74	11.54	12.33	13.13	13.93	14.73	15.53	16.33	17.12	17.92	18.72	19.52
10,000	10.58	11.22	11.86	12.49	13.13	13.77	14.41	15.05	15.69	16.33	16.96	17.60
12,000	10.47	11.00	11.54	12.07	12.60	13.13	13.67	14.20	14.73	15.26	15.79	16.33
14,000	10.40	10.85	11.31	11.76	12.22	12.68	13.13	13.59	14.05	14.50	14.96	15.41
16,000	10.34	10.74	11.14	11.54	11.94	12.33	12.73	13.13	13.53	13.93	14.33	14.73
18,000	10.29	10.65	11.00	11.36	11.71	12.07	12.42	12.78	13.13	13.49	13.84	14.20
20,000	10.26	10.58	10.90	11.22	11.54	11.86	12.18	12.49	12.81	13.13	13.45	13.77
22,000	10.23	10.52	10.81	11.10	11.39	11.68	11.97	12.26	12.55	12.84	13.13	13.42
24,000	10.21	10.47	10.74	11.00	11.27	11.54	11.80	12.07	12.33	12.60	12.87	13.13
26,000	10.19	10.43	10.68	10.92	11.17	11.41	11.66	11.90	12.15	12.40	12.64	12.89
28,000	10.17	10.40	10.62	10.85	11.08	11.31	11.54	11.76	11.99	12.22	12.45	12.68
30,000	10.15	10.37	10.58	10.79	11.00	11.22	11.44	11.64	11.86	12.07	12.28	12.49
35,000	10.12	10.30	10.49	10.67	10.85	11.03	11.22	11.40	11.58	11.76	11.95	12.13
40,000	10.10	10.26	10.42	10.58	10.74	10.90	11.06	11.22	11.38	11.54	11.70	11.86
45,000	10.08	10.22	10.37	10.51	10.65	10.79	10.93	11.08	11.22	11.36	11.50	11.64

<sup>a</sup> Assuming the truck will be utilized for other uses during off months. Source: Computed from Tables 1 and 3.



TABLE 5

Total Costs Per Animal-Unit-Mile for A 1/2-Ton Truck Transporting Two Animal Units of Livestock for Periods of One Through Twelve Months Over Selected Annual Mileages, West Virginia, 1970<sup>a</sup>

Total Miles Driven Annually Transporting Livestock	Months of Utilization											
	1	2	3	4	5	6	7	8	9	10	11	12
	cents											
500	11.36	17.74	24.13	30.52	36.90	43.29	49.68	56.06	62.45	68.83	75.22	81.61
1,000	8.17	11.36	14.55	17.74	20.94	25.13	27.32	30.52	33.71	36.90	40.10	43.29
1,500	7.10	9.23	11.36	13.49	15.62	17.74	19.87	22.00	24.13	26.26	28.39	30.52
2,000	6.57	8.17	9.76	11.36	12.96	14.55	16.15	17.74	19.34	20.94	22.53	24.13
4,000	5.77	6.57	7.37	8.17	8.96	9.76	10.56	11.36	12.16	12.96	13.75	14.55
6,000	5.50	6.04	6.57	7.10	7.63	8.17	8.70	9.23	9.76	10.29	10.83	11.36
8,000	5.37	5.77	6.17	6.57	6.97	7.37	7.77	8.17	8.56	8.96	9.36	9.76
10,000	5.29	5.61	5.93	6.25	6.57	6.89	7.21	7.53	7.85	8.17	8.48	8.80
12,000	5.24	5.50	5.77	6.04	6.30	6.57	6.84	7.10	7.37	7.63	7.90	8.17
14,000	5.20	5.43	5.66	5.88	6.11	6.34	6.57	6.80	7.03	7.25	7.48	7.71
16,000	5.17	5.37	5.57	5.77	5.97	6.17	6.37	6.57	6.77	6.97	7.17	7.37
18,000	5.15	5.33	5.50	5.68	5.86	6.04	6.21	6.39	6.57	6.75	6.92	7.10
20,000	5.13	5.29	5.45	5.61	5.77	5.93	6.09	6.25	6.41	6.57	6.73	6.89
22,000	5.12	5.26	5.41	5.55	5.70	5.84	5.99	6.13	6.28	6.42	6.57	6.71
24,000	5.11	5.24	5.37	5.50	5.64	5.77	5.90	6.04	6.17	6.30	6.44	6.57
26,000	5.10	5.22	5.34	5.46	5.59	5.71	5.83	5.95	6.08	6.20	6.32	6.45
28,000	5.09	5.20	5.31	5.43	5.54	5.66	5.77	5.88	6.00	6.11	6.23	6.34
30,000	5.08	5.19	5.29	5.40	5.50	5.61	5.72	5.82	5.93	6.04	6.14	6.25
35,000	5.06	5.15	5.25	5.34	5.43	5.52	5.61	5.70	5.79	5.88	5.98	6.07
40,000	5.05	5.13	5.21	5.29	5.37	5.45	5.53	5.61	5.69	5.77	5.85	5.93



The tables also indicate that total cost per animal unit per mile will decline as the number of annual miles increases. When the model trucks were utilized three months per year to transport two animal units per trip, the total cost per animal unit per mile decreased from 14.55 cents for 1,000 annual miles to 5.37 cents for 24,000 annual miles. It should be noted here that although the cost per animal unit per mile was lower for longer hauls, the total cost would be higher for farmers transporting livestock to markets at a greater distance.

*Trucks not utilized during the off months.* If the truck was not used for other purposes during the off months, the number of months of utilization would not be a variable considered for average cost analysis. Since the total fixed costs could only be attributed to the livestock enterprise they remained the same regardless of the number of months of use. In this case, average cost would only vary due to varying numbers of miles driven and animal units transported.

## 2-Ton Trucks

*Trucks utilized during the off months.* The 1 1/2-ton trucks were assumed to be driven an average of 6,000 miles per year.<sup>23</sup> If a 1 1/2-ton truck was utilized three months per year to transport ten animal units (full capacity of 1 1/2-ton trucks) 6,000 annual miles, the total cost per animal unit per mile would be 1.63 cents (Table 6). Total cost per animal unit per mile decreased as the total number of miles driven increased. However, these average costs decreased at a decreasing rate as the annual mileage increased. Total cost per animal unit per mile ranged from 5.55 cents for a truck driven 500 miles per year to 1.35 cents for a truck driven 30,000 annual miles at full capacity.

If the truck was used for 12 months rather than three months per year for transporting livestock with a total annual mileage of 6,000 miles, total cost per animal unit per mile would increase from 1.63 to 2.70 cents. Total cost per animal unit per mile ranged from 1.39 cents for one month of use per year to 2.70 cents for 12 months of use. The increase in average cost was constant for each additional month of utilization.

Total cost per animal unit per mile for transporting two, four, six, and eight animal units by 1 1/2-ton trucks is presented in Appendix Tables 1 through 4. Total cost per animal unit per mile decreased as the number of animal units transported increased. This reduction in average cost was proportional to the increase in the number of animal units transported.

*Trucks not utilized during the off months.* As described in the section on 1-ton trucks, only two variables were considered: annual mileage and the number of animal units transported. Total costs per animal unit per mile for transporting livestock by 1 1/2-ton trucks which were not utilized during the off months, are presented in Table 7. If a 1 1/2-ton truck was driven 6,000 miles per year to transport ten animal units, the total cost per animal unit per mile would be 2.70 cents. The average cost would increase to 4.50 cents if the number of animal units transported decreased to six.

<sup>23</sup> *Id.*, p. 12.

TABLE 6

Total Costs Per Animal-Unit-Mile for A 1 1/2-Ton Truck Transporting Ten Animal Units of Livestock for Periods of One Through Twelve Months Over Selected Annual Mileages, West Virginia, 1970<sup>a</sup>

Total Miles Driven Annually Transporting Livestock	Months of Utilization											
	1	2	3	4	5	6	7	8	9	10	11	12
							cents					
500	2.70	4.12	5.55	6.97	8.39	9.82	11.24	12.67	14.09	15.52	16.94	18.36
1,000	1.99	2.70	3.41	4.12	4.83	5.55	6.26	6.97	7.68	8.39	9.11	9.82
1,500	1.75	2.22	2.70	3.17	3.65	4.12	4.60	5.07	5.55	6.02	6.50	6.97
2,000	1.63	1.99	2.34	2.70	3.05	3.41	3.77	4.12	4.48	4.83	5.19	5.55
4,000	1.45	1.63	1.81	1.99	2.16	2.34	2.52	2.70	2.88	3.05	3.23	3.41
6,000	1.39	1.51	1.63	1.75	1.87	1.99	2.11	2.22	2.34	2.46	2.58	2.70
8,000	1.36	1.45	1.54	1.63	1.72	1.81	1.90	1.99	2.08	2.16	2.25	2.34
10,000	1.35	1.42	1.49	1.56	1.63	1.70	1.77	1.84	1.92	1.99	2.06	2.13
12,000	1.33	1.39	1.45	1.51	1.57	1.63	1.69	1.75	1.81	1.87	1.93	1.99
14,000	1.33	1.38	1.43	1.48	1.53	1.58	1.63	1.68	1.73	1.78	1.83	1.88
16,000	1.32	1.36	1.41	1.45	1.50	1.54	1.59	1.63	1.68	1.72	1.76	1.81
18,000	1.31	1.35	1.39	1.43	1.47	1.51	1.55	1.59	1.63	1.67	1.71	1.75
20,000	1.31	1.35	1.38	1.42	1.45	1.49	1.52	1.56	1.59	1.63	1.67	1.70
22,000	1.31	1.34	1.37	1.40	1.44	1.47	1.50	1.53	1.57	1.60	1.63	1.66
24,000	1.30	1.33	1.36	1.39	1.42	1.45	1.48	1.51	1.54	1.57	1.60	1.63
26,000	1.30	1.33	1.36	1.38	1.41	1.44	1.47	1.49	1.52	1.55	1.58	1.60
28,000	1.30	1.33	1.35	1.38	1.40	1.43	1.45	1.48	1.50	1.53	1.55	1.58
30,000	1.29	1.32	1.35	1.37	1.40	1.42	1.44	1.47	1.49	1.51	1.54	1.57

TABLE 7

Total Costs Per Animal-Unit-Mile for A 1 1/2-Ton Truck  
Transporting Specified Numbers of Animal Units Over  
Selected Annual Mileages,  
West Virginia, 1970<sup>a</sup>

Miles Traveled Annually Transporting Livestock	Number of Animal Units				
	2	4	6	8	10
			<u>cents</u>		
500	91.82	45.91	30.61	22.95	18.36
1,000	49.10	24.55	16.37	12.27	9.82
1,500	34.85	17.43	11.62	8.71	6.97
2,000	27.73	13.87	9.24	6.93	5.55
4,000	17.05	8.53	5.68	4.26	3.41
6,000	13.49	6.75	4.50	3.37	2.70
8,000	11.71	5.86	3.90	2.93	2.34
10,000	10.64	5.32	3.55	2.66	2.13
12,000	9.93	4.97	3.31	2.48	1.99
14,000	9.42	4.71	3.14	2.36	1.88
16,000	9.04	4.52	3.01	2.26	1.81
18,000	8.75	4.37	2.92	2.19	1.75
20,000	8.51	4.25	2.84	2.13	1.70
22,000	8.31	4.16	2.77	2.08	1.66
24,000	8.15	4.08	2.72	2.04	1.63
26,000	8.02	4.01	2.67	2.00	1.60
28,000	7.90	3.95	2.63	1.97	1.58
30,000	7.80	3.90	2.60	1.95	1.56

<sup>a</sup> Assuming the truck was used only for livestock transportation during a 12-month period.  
Source: Computed from Table 6 and Appendix Tables 1 through 4.

## THE OPTIMUM MEANS OF LIVESTOCK TRANSPORTATION

The 1/2-ton truck was compared to the 1 1/2-ton truck on the basis of total cost per animal unit transported over a three-month period in order to determine the optimum means of livestock transportation under different marketing assumptions. This comparison considered a range in animal units transported (ten to 50) and a range in miles per roundtrip to destination (from 20 to 100 miles, Table 8). The comparison was based on total cost per animal unit transported

TABLE 8

Total Cost Per Animal Unit Transported By 1/2- and 1 1/2-Ton Trucks  
During A Three-Month Period Over Selected Round-Trip Miles  
With Selected Numbers of Animal  
Units Transported, West Virginia, 1970<sup>a</sup>

Round-Trip Mileage	Truck Size	Total Number of Animal Units Transported				
		10	20	30	40	50
20	1/2-Ton	\$20.20	\$10.60	\$ 7.40	\$ 5.80	\$ 4.64
	1 1/2-Ton	21.66	10.96	7.38	5.62	4.50
40	1/2-Ton	21.20	11.60	8.40	6.80	5.60
	1 1/2-Ton	21.92	11.24	7.64	5.88	4.72
60	1/2-Ton	22.20	12.60	9.30	7.80	6.60
	1 1/2-Ton	22.14	11.46	7.92	6.12	5.04
80	1/2-Ton	23.20	13.60	10.40	8.80	7.60
	1 1/2-Ton	22.48	11.76	8.16	6.40	5.28
100	1/2-Ton	24.00	14.50	11.50	10.00	8.80
	1 1/2-Ton	22.70	12.00	8.40	6.70	5.56

<sup>a</sup> Assuming the truck will be utilized for other purposes during the off months. Source: Computed from Tables 1 and 3.

during the stated time period rather than on a cost per animal unit per mile basis, in order that an individual farmer could determine what it costs to transport livestock to its destination on either of the two model trucks.

It was assumed that each truck always carried its full capacity load (ten animal units on the 1/2-ton truck and ten animal units on the 1 1/2-ton truck). Therefore, when more than two animal units were assumed to be transported by a 1/2-ton truck, the total cost per animal unit transported was based on more than one round trip to the destination. Similarly, when more than ten animal units were transported by a 1 1/2-ton truck, multiple round-trips were considered. For example, a farmer with a 1/2-ton truck transporting 20 animal units to a destination 20 miles away would have to make ten round trips (total 400 miles). The total cost per animal unit transported in this case would be \$11.60 (Table 8). If the same farmer owned a 1 1/2-ton truck, however, only two round-trips or 80 miles of traveling would be necessary. The total cost in the latter case would be \$11.24.

Table 8 shows that for transporting 20 animal units or less a round-trip distance of 20 miles or less or for transporting ten animal units or less a round-trip distance of 40 miles or less, the 1/2-ton truck is more economical than the 1 1/2-ton truck. The 1 1/2-ton truck has the cost advantage for greater numbers of animal units transported greater distances.

Table 10

**Total Costs Per Animal-Unit-Mile For A Three-Year-Old  
1 1/2-Ton Truck Transporting Ten Animal Units of  
Livestock For Selected Months of Use and Annual  
Mileages, West Virginia, 1970<sup>a</sup>**

Total Miles Traveled Annually Transporting Livestock	Months of Utilization					
	1	2	3	4	5	6
	<u>cents</u>					
500	2.26	3.24	4.23	5.21	6.20	7.18
1,000	1.77	2.26	2.75	3.24	3.73	4.23
1,500	1.60	1.93	2.26	2.59	2.91	3.24
2,000	1.52	1.77	2.01	2.26	2.50	2.75
4,000	1.40	1.52	1.64	1.77	1.89	2.01
6,000	1.36	1.44	1.52	1.60	1.68	1.77
8,000	1.34	1.40	1.46	1.52	1.58	1.64
10,000	1.32	1.37	1.42	1.47	1.52	1.57
12,000	1.32	1.36	1.40	1.44	1.48	1.52
14,000	1.31	1.34	1.38	1.41	1.45	1.48
16,000	1.30	1.34	1.37	1.40	1.43	1.46
18,000	1.30	1.33	1.36	1.38	1.41	1.44
20,000	1.30	1.32	1.35	1.37	1.40	1.42
22,000	1.30	1.32	1.34	1.36	1.39	1.41
24,000	1.29	1.32	1.34	1.36	1.38	1.40
26,000	1.29	1.31	1.33	1.35	1.37	1.39
28,000	1.29	1.31	1.33	1.34	1.36	1.38
30,000	1.29	1.31	1.32	1.34	1.36	1.37

<sup>a</sup> Assuming the truck will be utilized for other uses during off months. Source: Computed from Table 3 and Appendix Table 5.

Table 11  
Total Costs Per Animal-Unit-Mile For A Five-Year-Old  
1 1/2-Ton Truck Transporting Ten Animal Units of  
Livestock For Selected Months of Use and Annual  
Mileages, West Virginia, 1970<sup>a</sup>

Total Miles Driven Annually Transporting Livestock	Months of Utilization					
	1	2	3	4	5	6
	<u>cents</u>					
500	2.00	2.72	3.44	4.16	4.88	5.61
1,000	1.63	2.00	2.36	2.72	3.08	3.44
1,500	1.51	1.76	2.00	2.24	2.48	2.72
2,000	1.45	1.63	1.82	2.00	2.18	2.36
4,000	1.36	1.45	1.54	1.63	1.73	1.82
6,000	1.33	1.39	1.45	1.51	1.57	1.63
8,000	1.32	1.36	1.41	1.45	1.50	1.54
10,000	1.31	1.35	1.38	1.42	1.45	1.49
12,000	1.30	1.33	1.36	1.39	1.42	1.45
14,000	1.30	1.33	1.35	1.38	1.40	1.43
16,000	1.30	1.32	1.34	1.36	1.39	1.41
18,000	1.29	1.31	1.33	1.35	1.37	1.39
20,000	1.29	1.31	1.33	1.35	1.36	1.38
22,000	1.29	1.31	1.32	1.34	1.36	1.37
24,000	1.29	1.30	1.32	1.33	1.35	1.36
26,000	1.29	1.30	1.32	1.33	1.34	1.36
28,000	1.29	1.30	1.31	1.33	1.34	1.35
30,000	1.29	1.30	1.31	1.32	1.33	1.35

<sup>a</sup> Assuming the truck will be utilized for other uses during off months. Source: Computed from Table 3 and Appendix Table 5.



**Table 12**  
**Total Costs Per Animal-Unit-Mile For A Seven-Year-Old**  
**1 1/2-Ton Truck Transporting Ten Animal Units of**  
**Livestock For Selected Months of Use and Annual**  
**Mileages, West Virginia, 1970<sup>a</sup>**

Total Miles Traveled Annually Transporting Livestock	Months of Utilization					
	1	2	3	4	5	6
	<u>cents</u>					
500	1.88	2.48	3.08	3.68	4.28	4.88
1,000	1.57	1.88	2.18	2.48	2.78	3.08
1,500	1.47	1.67	1.88	2.08	2.28	2.48
2,000	1.42	1.57	1.73	1.88	2.03	2.18
4,000	1.35	1.42	1.50	1.57	1.65	1.73
6,000	1.32	1.37	1.42	1.47	1.52	1.57
8,000	1.31	1.35	1.39	1.42	1.46	1.50
10,000	1.30	1.33	1.36	1.39	1.42	1.45
12,000	1.30	1.32	1.35	1.37	1.40	1.42
14,000	1.30	1.32	1.34	1.36	1.38	1.40
16,000	1.29	1.31	1.33	1.35	1.37	1.39
18,000	1.29	1.31	1.32	1.34	1.36	1.37
20,000	1.29	1.30	1.32	1.33	1.35	1.36
22,000	1.29	1.30	1.32	1.33	1.34	1.36
24,000	1.29	1.30	1.31	1.32	1.34	1.35
26,000	1.29	1.30	1.31	1.32	1.33	1.34
28,000	1.28	1.30	1.31	1.32	1.33	1.34
30,000	1.28	1.29	1.30	1.31	1.32	1.33

Assuming the truck will be utilized for other uses during off months. Source: Computed from Table 3 and Appendix Table 5.

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Total Miles  
Driven Annually  
Transporting  
Livestock

Months of Utilization

	1	2	3	4	5	6	7	8	9	10	11	12
	cents											
500	6.75	10.31	13.87	17.42	20.99	24.55	28.11	31.67	35.23	38.79	42.35	45.91
1,000	4.97	6.75	8.53	10.31	12.09	13.87	15.65	17.43	19.21	20.99	22.77	24.55
1,500	4.37	5.56	6.75	7.93	9.12	10.31	11.49	12.68	13.87	15.05	16.24	17.43
2,000	4.08	4.97	5.86	6.75	7.64	8.53	9.42	10.31	11.20	12.09	12.98	13.87
4,000	3.63	4.08	4.52	4.97	5.41	5.86	6.30	6.75	7.19	7.64	8.08	8.53
6,000	3.48	3.78	4.08	4.37	4.67	4.97	5.26	5.56	5.86	6.15	6.45	6.75
8,000	3.41	3.63	3.85	4.08	4.30	4.52	4.74	4.97	5.19	5.41	5.63	5.86
10,000	3.36	3.54	3.72	3.90	4.08	4.25	4.43	4.61	4.79	4.97	5.14	5.32
12,000	3.33	3.48	3.63	3.78	3.93	4.08	4.22	4.37	4.52	4.67	4.82	4.97
14,000	3.31	3.44	3.57	3.69	3.82	3.95	4.08	4.20	4.33	4.46	4.58	4.71
16,000	3.30	3.41	3.52	3.63	3.74	3.85	3.97	4.08	4.19	4.30	4.41	4.52
18,000	3.29	3.38	3.48	3.58	3.68	3.78	3.88	3.98	4.08	4.18	4.27	4.37
20,000	3.28	3.36	3.45	3.54	3.63	3.72	3.81	3.90	3.99	4.08	4.17	4.25
22,000	3.27	3.35	3.43	3.51	3.59	3.67	3.75	3.83	3.91	4.00	4.08	4.16
24,000	3.26	3.33	3.41	3.48	3.56	3.63	3.71	3.78	3.85	3.93	4.00	4.08
26,000	3.25	3.32	3.39	3.46	3.53	3.60	3.67	3.73	3.80	3.87	3.94	4.01
28,000	3.25	3.31	3.38	3.44	3.50	3.57	3.63	3.69	3.76	3.82	3.89	3.95
30,000	3.25	3.30	3.36	3.42	3.48	3.54	3.60	3.66	3.72	3.78	3.84	3.90

<sup>a</sup>Assuming the truck will be utilized for other uses during off months. Source: Computed from Tables 1 and 3.

Table 3

Total Costs Per Animal-Unit-Mile For A 1½-Ton Truck Transporting Six Animal Units of Livestock For  
Periods of One Through Twelve Months Over Selected Annual Mileages, West Virginia, 1970<sup>a</sup>

Total Miles Driven Annually Transporting Livestock	Months of Utilization											
	1	2	3	4	5	6	7	8	9	10	11	12
	cents											
500	4.50	6.87	9.24	11.61	13.99	16.37	18.74	21.11	23.49	25.86	28.23	30.61
1,000	3.31	4.50	5.68	6.87	8.06	9.24	10.43	11.62	12.80	13.99	15.18	16.37
1,500	2.92	3.71	4.50	5.29	6.08	6.87	7.66	8.45	9.24	10.04	10.83	11.62
2,000	2.72	3.31	3.90	4.50	5.09	5.68	6.28	6.87	7.46	8.06	8.65	9.24
4,000	2.42	2.72	3.01	3.31	3.61	3.90	4.20	4.50	4.79	5.09	5.39	5.68
6,000	2.32	2.52	2.72	2.92	3.11	3.31	3.51	3.71	3.90	4.10	4.30	4.50
8,000	2.27	2.42	2.57	2.72	2.87	3.01	3.16	3.31	3.46	3.61	3.76	3.90
10,000	2.24	2.36	2.48	2.60	2.72	2.84	2.95	3.07	3.19	3.31	3.43	3.55
12,000	2.22	2.32	2.42	2.52	2.62	2.72	2.82	2.92	3.01	3.11	3.21	3.31
14,000	2.21	2.29	2.38	2.46	2.55	2.63	2.72	2.80	2.89	2.97	3.06	3.14
16,000	2.20	2.27	2.35	2.42	2.50	2.57	2.64	2.72	2.79	2.87	2.94	3.01
18,000	2.19	2.26	2.32	2.39	2.45	2.52	2.59	2.65	2.72	2.78	2.85	2.92
20,000	2.18	2.24	2.30	2.36	2.42	2.48	2.54	2.60	2.66	2.72	2.78	2.84
22,000	2.18	2.23	2.29	2.34	2.39	2.45	2.50	2.56	2.61	2.66	2.72	2.77
24,000	2.17	2.22	2.27	2.32	2.37	2.42	2.47	2.52	2.57	2.62	2.67	2.72
26,000	2.17	2.22	2.26	2.31	2.35	2.40	2.44	2.49	2.53	2.58	2.63	2.67
28,000	2.17	2.21	2.25	2.29	2.34	2.38	2.42	2.46	2.51	2.55	2.59	2.63
30,000	2.16	2.20	2.24	2.28	2.32	2.36	2.40	2.44	2.48	2.52	2.56	2.60

Total Miles  
Driven Annually  
Transporting  
Livestock

Months of Utilization

	1	2	3	4	5	6	7	8	9	10	11	12
							cents					
500	3.37	5.15	6.93	8.71	10.49	12.27	14.05	15.83	17.61	19.39	21.17	22.95
1,000	2.48	3.37	4.26	5.15	6.04	6.93	7.82	8.71	9.60	10.49	11.38	12.27
1,500	2.19	2.78	3.37	3.97	4.56	5.15	5.75	6.34	6.93	7.53	8.12	8.71
2,000	2.04	2.48	2.93	3.37	3.82	4.26	4.71	5.15	5.60	6.04	6.49	6.93
4,000	1.82	2.04	2.26	2.48	2.71	2.93	3.15	3.37	3.60	3.82	4.04	4.26
6,000	1.74	1.89	2.04	2.19	2.33	2.48	2.63	2.78	2.93	3.08	3.22	3.37
8,000	1.70	1.82	1.93	2.04	2.15	2.26	2.37	2.48	2.59	2.71	2.82	2.93
10,000	1.68	1.77	1.86	1.95	2.04	2.13	2.22	2.31	2.39	2.48	2.57	2.66
12,000	1.67	1.74	1.82	1.89	1.96	2.04	2.11	2.19	2.26	2.33	2.41	2.48
14,000	1.66	1.72	1.78	1.85	1.91	1.97	2.04	2.10	2.17	2.23	2.29	2.36
16,000	1.65	1.70	1.76	1.82	1.87	1.93	1.98	2.04	2.09	2.15	2.21	2.26
18,000	1.64	1.69	1.74	1.79	1.84	1.89	1.94	1.99	2.04	2.09	2.14	2.19
20,000	1.64	1.68	1.73	1.77	1.82	1.86	1.90	1.95	1.99	2.04	2.08	2.13
22,000	1.63	1.67	1.71	1.75	1.80	1.84	1.88	1.92	1.96	2.00	2.04	2.08
24,000	1.63	1.67	1.70	1.74	1.78	1.82	1.85	1.89	1.93	1.96	2.00	2.04
26,000	1.63	1.66	1.70	1.73	1.76	1.80	1.83	1.87	1.90	1.94	1.97	2.00
28,000	1.62	1.66	1.69	1.72	1.75	1.78	1.82	1.85	1.88	1.91	1.94	1.97
30,000	1.62	1.65	1.68	1.71	1.74	1.77	1.80	1.83	1.86	1.89	1.92	1.95

a Assuming the truck will be utilized for other uses during off months. Source: Computed from Tables 1 and 3.

Table 5  
Estimated Annual Fixed Costs For Transporting  
Livestock by 1 1/2-Ton Used Trucks of Different  
Ages in West Virginia, 1970

Fixed Cost Items	Age of Trucks in Years			
	1	3	5	
Depreciation <sup>a</sup>	\$284.81	\$244.21	\$146.07	\$107.81
Insurance <sup>b</sup>	135.40	135.40	135.40	135.40
Interest <sup>c</sup>	119.05	83.52	38.86	119.05
License Fee <sup>d</sup>	100.00	100.00	100.00	100.00
Property Tax <sup>e</sup>	39.16	27.47	12.78	39.16
Total Fixed Cost	\$678.42	\$590.60	\$433.11	\$366.82

<sup>a</sup> Depreciation costs were computed by the straight line method on the basis of following assumptions:

(1) The cost for one-, three-, five-, and seven-year-old trucks was obtained considering the new cost of 1970, 1968, 1966, and 1964 model trucks and equipment including the V-8 engine in 1971. The cost for one-year-old trucks was \$3,132.86. For three-, five-, and seven-year-old trucks the cost was \$2,197.50, \$1,022.50 and \$500.83, respectively. Source: *Truck Blue Book*, Official Used Truck Valuation, Effective January 1 — June 30, 1971. It was assumed that these costs were no significant difference from the costs of buying 1969, 1967, 1965 and 1963 model trucks in 1970.

(2) The use life of 1 1/2-ton trucks was assumed to be 12 years.

<sup>b</sup> Insurance costs for the four different used trucks were assumed to be \$135.40 a year. This assumption was based on the data from: Robert L. Jack and Ahmad Abdul Kader, *Costs of Collecting Eggs from Farms by Firms Located in West Virginia*, West Virginia University Agricultural Experiment Station, Bulletin 571 (Morgantown, West Virginia: West Virginia University, February, 1969), p. 34. The insurance costs for 1960 trucks and 1965 trucks were both \$127 a year in this study.

<sup>c</sup> Interest costs were computed at a rate of 7.6 per cent on the basis of mid-life value. The mid-life value was assumed to be half of the retail value of the trucks at the time purchased.

<sup>d</sup> Source: *Schedule of Motor Vehicle Fees for All Classes*, State of West Virginia, John H. Gates, Commissioner, Department of Motor Vehicles, Effective July 1, 1970.

<sup>e</sup> Computed on basis of mid-life value of trucks at a tax rate of \$2.50 per \$100 appraised value. Source: Data from State of West Virginia, Charles H. Haden II, Tax Commissioner.



Table 6

Total Costs Per Animal-Unit-Mile For A One-Year-Old  
1 1/2-Ton Truck Transporting Two Animal Units of  
Livestock For Selected Months of Use and Annual  
Mileages, West Virginia, 1970<sup>a</sup>

Miles Traveled Annually Transporting Livestock	Months of Utilization					
	1	2	3	4	5	6
	<u>cents</u>					
500	12.02	17.68	23.33	28.98	34.64	40.29
1,000	9.20	12.02	14.85	17.68	20.50	23.33
1,500	8.25	10.14	12.02	13.91	15.79	17.68
2,000	7.78	9.20	10.61	12.02	13.44	14.85
4,000	7.08	7.78	8.49	9.20	9.90	10.61
6,000	6.84	7.31	7.78	8.25	8.73	9.20
8,000	6.72	7.08	7.43	7.78	8.14	8.49
10,000	6.65	6.94	7.22	7.50	7.78	8.07
12,000	6.61	6.84	7.08	7.31	7.55	7.78
14,000	6.57	6.77	6.98	7.18	7.38	7.58
16,000	6.55	6.72	6.90	7.08	7.25	7.43
18,000	6.53	6.68	6.84	7.00	7.16	7.31
20,000	6.51	6.65	6.79	6.94	7.08	7.22
22,000	6.50	6.63	6.76	6.88	7.01	7.14
24,000	6.49	6.61	6.72	6.84	6.96	7.08
26,000	6.48	6.59	6.70	6.80	6.91	7.02
28,000	6.47	6.57	6.67	6.77	6.87	6.98
30,000	6.46	6.56	6.65	6.75	6.84	6.94

assuming the truck will be utilized for other uses during off months. Source: Computed from Table 3 and Appendix Table 5.

Table 7  
Total Costs Per Animal-Unit-Mile For A One-Year-Old  
1 1/2-Ton Truck Transporting Four Animal Units of  
Livestock For Selected Months of Use and Annual  
Mileages, West Virginia, 1970<sup>a</sup>

Total Miles Driven Annually Transporting Livestock	Months of Utilization					
	1	2	3	4	5	
	<u>cents</u>					
500	6.01	8.84	11.67	14.49	17.32	20
1,000	4.60	6.01	7.43	8.84	10.25	11
1,500	4.13	5.07	6.01	6.95	7.90	8
2,000	3.89	4.60	5.31	6.01	6.72	7
4,000	3.54	3.89	4.24	4.60	4.95	5
6,000	3.42	3.66	3.89	4.13	4.36	4
8,000	3.36	3.54	3.71	3.89	4.07	4
10,000	3.33	3.47	3.61	3.75	3.89	4
12,000	3.30	3.42	3.54	3.66	3.77	3
14,000	3.29	3.39	3.49	3.59	3.69	3
16,000	3.27	3.36	3.45	3.54	3.63	3
18,000	3.26	3.34	3.42	3.50	3.58	3
20,000	3.26	3.33	3.40	3.47	3.54	3
22,000	3.25	3.31	3.38	3.44	3.51	3
24,000	3.24	3.30	3.36	3.42	3.48	3
26,000	3.24	3.29	3.35	3.40	3.46	3
28,000	3.24	3.29	3.34	3.39	3.44	3
30,000	3.23	3.28	3.33	3.37	3.42	3

<sup>a</sup> Assuming the truck will be utilized for other uses during off months. Source: Computed from Table 3 and Appendix Table 5.

Table 8

Total Costs Per Animal-Unit-Mile For A One-Year-Old  
1 1/2-Ton Truck Transporting Six Animal Units of  
Livestock For Selected Months of Use and Annual  
Mileages, West Virginia, 1970<sup>a</sup>

Miles in Annually Transporting Livestock	Months of Utilization					
	1	2	3	4	5	6
	<u>cents</u>					
500	4.01	5.89	7.78	9.66	11.55	13.43
1,000	3.07	4.01	4.95	5.89	6.83	7.78
1,500	2.75	3.38	4.01	4.64	5.26	5.89
2,000	2.59	3.07	3.54	4.01	4.48	4.95
4,000	2.36	2.59	2.83	3.07	3.30	3.54
6,000	2.28	2.44	2.59	2.75	2.91	3.07
8,000	2.24	2.36	2.48	2.59	2.71	2.83
10,000	2.22	2.31	2.41	2.50	2.59	2.69
12,000	2.20	2.28	2.36	2.44	2.52	2.59
14,000	2.19	2.26	2.33	2.39	2.46	2.53
16,000	2.18	2.24	2.30	2.36	2.42	2.48
18,000	2.18	2.23	2.28	2.33	2.39	2.44
20,000	2.17	2.22	2.26	2.31	2.36	2.41
22,000	2.17	2.21	2.25	2.29	2.34	2.38
24,000	2.16	2.20	2.24	2.28	2.32	2.36
26,000	2.16	2.20	2.23	2.27	2.30	2.34
28,000	2.16	2.19	2.22	2.26	2.29	2.33
30,000	2.15	2.19	2.22	2.25	2.28	2.31

assuming the truck will be utilized for other uses during off months. Source: Computed  
from Table 3 and Appendix Table 5.

Table 9  
Total Costs Per Animal-Unit-Mile For A One-Year-Old  
1 1/2-Ton Truck Transporting Eight Animal Units of  
Livestock For Selected Months of Use and Annual  
Mileages, West Virginia, 1970<sup>a</sup>

Total Miles Driven Annually Transporting Livestock	Months of Utilization				
	1	2	3	4	5
	<u>cents</u>				
500	3.01	4.42	5.83	7.25	8.66
1,000	2.30	3.01	3.71	4.42	5.13
1,500	2.06	2.53	3.01	3.48	3.95
2,000	1.95	2.30	2.65	3.01	3.36
4,000	1.77	1.95	2.12	2.30	2.48
6,000	1.71	1.83	1.95	2.06	2.18
8,000	1.68	1.77	1.86	1.95	2.03
10,000	1.66	1.73	1.80	1.88	1.95
12,000	1.65	1.71	1.77	1.83	1.89
14,000	1.64	1.69	1.74	1.79	1.84
16,000	1.64	1.68	1.72	1.77	1.81
18,000	1.63	1.67	1.71	1.75	1.79
20,000	1.63	1.66	1.70	1.73	1.77
22,000	1.62	1.66	1.69	1.72	1.75
24,000	1.62	1.65	1.68	1.71	1.74
26,000	1.62	1.65	1.67	1.70	1.73
28,000	1.62	1.64	1.67	1.69	1.72
30,000	1.62	1.64	1.66	1.69	1.71

<sup>a</sup> Assuming the truck will be utilized for other uses during off months. Source: Com from Table 3 and Appendix Table 5.

Table 10

Total Costs Per Animal-Unit-Mile For A Three-Year-Old  
1 1/2-Ton Truck Transporting Two Animal Units of  
Livestock For Selected Months of Use and Annual  
Mileages, West Virginia, 1970<sup>a</sup>

Miles Annually Transporting Livestock	Months of Utilization					
	1	2	3	4	5	6
	<u>cents</u>					
500	11.29	16.21	21.13	26.06	30.98	35.90
1,000	8.83	11.29	13.75	16.21	18.67	21.13
1,500	8.01	9.65	11.29	12.93	14.57	16.21
2,000	7.60	8.83	10.06	11.29	12.52	13.75
4,000	6.99	7.60	8.22	8.83	9.45	10.06
6,000	6.78	7.19	7.60	8.01	8.42	8.83
8,000	6.68	6.99	7.29	7.60	7.91	8.22
10,000	6.62	6.86	7.11	7.35	7.60	7.85
12,000	6.57	6.78	6.99	7.19	7.40	7.60
14,000	6.55	6.72	6.90	7.07	7.25	7.42
16,000	6.52	6.68	6.83	6.99	7.14	7.29
18,000	6.51	6.64	6.78	6.92	7.05	7.19
20,000	6.49	6.62	6.74	6.86	6.99	7.11
22,000	6.48	6.59	6.71	6.82	6.93	7.04
24,000	6.47	6.57	6.68	6.78	6.88	6.99
26,000	6.46	6.56	6.65	6.75	6.84	6.94
28,000	6.46	6.55	6.63	6.72	6.81	6.90
30,000	6.45	6.53	6.62	6.70	6.78	6.86

assuming the truck will be utilized for other uses during off months. Source: Computed  
from Table 3 and Appendix Table 5.

Table 11  
Total Costs Per Animal-Unit-Mile For A Three-Year-Old  
1 1/2-Ton Truck Transporting Four Animal Units of  
Livestock For Selected Months of Use and Annual  
Mileages, West Virginia, 1970<sup>a</sup>

Total Miles Driven Annually Transporting Livestock	Months of Utilization				
	1	2	3	4	5
	<u>cents</u>				
500	5.65	8.11	10.57	13.03	15.49
1,000	4.42	5.65	6.88	8.11	9.34
1,500	4.01	4.83	5.65	6.47	7.29
2,000	3.80	4.42	5.03	5.65	6.26
4,000	3.49	3.80	4.11	4.42	4.72
6,000	3.39	3.60	3.80	4.01	4.21
8,000	3.34	3.49	3.65	3.80	3.95
10,000	3.31	3.43	3.55	3.68	3.80
12,000	3.29	3.39	3.49	3.60	3.70
14,000	3.27	3.36	3.45	3.54	3.62
16,000	3.26	3.34	3.42	3.49	3.57
18,000	3.25	3.32	3.39	3.46	3.53
20,000	3.25	3.31	3.37	3.43	3.49
22,000	3.24	3.30	3.35	3.41	3.46
24,000	3.24	3.29	3.34	3.39	3.44
26,000	3.23	3.28	3.33	3.37	3.42
28,000	3.23	3.27	3.32	3.36	3.40
30,000	3.23	3.27	3.31	3.35	3.39

<sup>a</sup> Assuming the truck will be utilized for other uses during off months. Source: Computed from Table 3 and Appendix Table 5.



Table 12

Total Costs Per Animal-Unit-Mile For A Three-Year-Old  
1 1/2-Ton Truck Transporting Six Animal Units of  
Livestock For Selected Months of Use and Annual  
Mileages, West Virginia, 1970<sup>a</sup>

Total Miles Traveled Annually Transporting Livestock	Months of Utilization					
	1	2	3	4	5	6
	<u>cents</u>					
500	3.76	5.40	7.04	8.69	10.33	11.97
1,000	2.94	3.76	4.58	5.40	6.22	7.04
1,500	2.67	3.22	3.76	4.31	4.86	5.40
2,000	2.53	2.94	3.35	3.76	4.17	4.58
4,000	2.33	2.53	2.74	2.94	3.15	3.35
6,000	2.26	2.40	2.53	2.67	2.81	2.94
8,000	2.23	2.33	2.43	2.53	2.64	2.74
10,000	2.21	2.29	2.37	2.45	2.53	2.62
12,000	2.19	2.26	2.33	2.40	2.47	2.53
14,000	2.18	2.24	2.30	2.36	2.42	2.47
16,000	2.17	2.23	2.28	2.33	2.38	2.43
18,000	2.17	2.21	2.26	2.31	2.35	2.40
20,000	2.16	2.21	2.25	2.29	2.33	2.37
22,000	2.16	2.20	2.24	2.27	2.31	2.35
24,000	2.16	2.19	2.23	2.26	2.29	2.33
26,000	2.15	2.19	2.22	2.25	2.28	2.31
28,000	2.15	2.18	2.21	2.24	2.27	2.30
30,000	2.15	2.18	2.21	2.23	2.26	2.29

<sup>a</sup> Assuming the truck will be utilized for other uses during off months. Source: Computed from Table 3 and Appendix Table 5.

Table 13

Total Costs Per Animal-Unit-Mile For A Three-Year-Old  
1 1/2-Ton Truck Transporting Eight Animal Units of  
Livestock For Selected Months of Use and Annual  
Mileages, West Virginia, 1970<sup>a</sup>

Total Miles Driven Annually Transporting Livestock	Months of Utilization				
	1	2	3	4	5
	<u>cents</u>				
500	2.82	4.05	5.28	6.51	7.74
1,000	2.21	2.82	3.44	4.05	4.67
1,500	2.00	2.41	2.82	3.23	3.64
2,000	1.90	2.21	2.52	2.82	3.13
4,000	1.75	1.90	2.05	2.21	2.36
6,000	1.70	1.80	1.90	2.00	2.11
8,000	1.67	1.75	1.82	1.90	1.98
10,000	1.65	1.72	1.78	1.84	1.90
12,000	1.64	1.70	1.75	1.80	1.85
14,000	1.64	1.68	1.72	1.77	1.81
16,000	1.63	1.67	1.71	1.75	1.78
18,000	1.63	1.66	1.70	1.73	1.76
20,000	1.62	1.65	1.68	1.72	1.75
22,000	1.62	1.65	1.68	1.70	1.73
24,000	1.62	1.64	1.67	1.70	1.72
26,000	1.62	1.64	1.66	1.69	1.71
28,000	1.61	1.64	1.66	1.68	1.70
30,000	1.61	1.63	1.65	1.67	1.70

<sup>a</sup> Assuming the truck will be utilized for other uses during off months. Source: Com from Table 3 and Appendix Table 5.

Table 14

Total Costs Per Animal-Unit-Mile For A Five-Year-Old  
1 1/2-Ton Truck Transporting Two Animal Units of  
Livestock For Selected Months of Use and Annual  
Mileages, West Virginia, 1970<sup>a</sup>

Miles Annually Transporting Livestock	Months of Utilization					
	1	2	3	4	5	6
	<u>cents</u>					
500	9.98	13.59	17.20	20.81	24.42	28.03
1,000	8.17	9.98	11.78	13.59	15.39	17.20
1,500	7.57	8.78	9.98	11.18	12.39	13.59
2,000	7.27	8.17	9.08	9.98	10.88	11.78
4,000	6.82	7.27	7.72	8.17	8.63	9.08
6,000	6.67	6.97	7.27	7.57	7.87	8.17
8,000	6.60	6.82	7.05	7.27	7.50	7.72
10,000	6.55	6.73	6.91	7.09	7.27	7.45
12,000	6.52	6.67	6.82	6.97	7.12	7.27
14,000	6.50	6.63	6.76	6.89	7.01	7.14
16,000	6.48	6.60	6.71	6.82	6.93	7.05
18,000	6.47	6.57	6.67	6.77	6.87	6.97
20,000	6.46	6.55	6.64	6.73	6.82	6.91
22,000	6.45	6.53	6.62	6.70	6.78	6.86
24,000	6.45	6.52	6.60	6.67	6.75	6.82
26,000	6.44	6.51	6.58	6.65	6.72	6.79
28,000	6.43	6.50	6.56	6.63	6.69	6.76
30,000	6.43	6.49	6.55	6.61	6.67	6.73

assuming the truck will be utilized for other uses during off months. Source: Computed  
Table 3 and Appendix Table 5.

Table 15  
Total Costs Per Animal-Unit-Mile For A Five-Year-Old  
1 1/2-Ton Truck Transporting Four Animal Units of  
Livestock For Selected Months of Use and Annual  
Mileages, West Virginia, 1970<sup>a</sup>

Total Miles Driven Annually Transporting Livestock	Months of Utilization					
	1	2	3	4	5	6
	<u>cents</u>					
500	4.99	6.79	8.60	10.40	12.21	14.01
1,000	4.09	4.99	5.89	6.79	6.70	6.61
1,500	3.79	4.39	4.99	5.59	6.19	6.79
2,000	3.64	4.09	4.54	4.99	5.44	5.89
4,000	3.41	3.64	3.86	4.09	4.31	4.54
6,000	3.34	3.49	3.64	3.79	3.94	4.09
8,000	3.30	3.41	3.52	3.64	3.75	3.86
10,000	3.28	3.37	3.46	3.55	3.64	3.73
12,000	3.26	3.34	3.41	3.49	3.56	3.63
14,000	3.25	3.31	3.38	3.44	3.51	3.57
16,000	3.24	3.30	3.35	3.41	3.47	3.52
18,000	3.24	3.29	3.34	3.39	3.44	3.49
20,000	3.23	3.28	3.32	3.37	3.41	3.46
22,000	3.23	3.27	3.31	3.35	3.39	3.43
24,000	3.22	3.26	3.30	3.34	3.37	3.41
26,000	3.22	3.25	3.29	3.32	3.36	3.39
28,000	3.22	3.25	3.28	3.31	3.35	3.38
30,000	3.22	3.25	3.28	3.31	3.34	3.37

<sup>a</sup> Assuming the truck will be utilized for other uses during off months. Source: Computed from Table 3 and Appendix Table 5.

Table 16

Total Costs Per Animal-Unit-Mile For A Five-Year-Old  
1 1/2-Ton Truck Transporting Six Animal Units of  
Livestock For Selected Months of Use and Annual  
Mileages, West Virginia, 1970<sup>a</sup>

Miles in Annually Transporting Livestock	Months of Utilization					
	1	2	3	4	5	6
	cents					
500	3.33	4.53	5.73	6.94	8.14	9.34
1,000	2.72	3.33	3.93	4.53	5.13	5.73
1,500	2.52	2.93	3.33	3.73	4.13	4.53
2,000	2.42	2.72	3.03	3.33	3.63	3.93
4,000	2.27	2.42	2.57	2.72	2.88	3.03
6,000	2.22	2.32	2.42	2.52	2.62	2.72
8,000	2.20	2.27	2.35	2.42	2.50	2.57
10,000	2.18	2.24	2.30	2.36	2.42	2.48
12,000	2.17	2.22	2.27	2.32	2.37	2.42
14,000	2.17	2.21	2.25	2.30	2.34	2.38
16,000	2.16	2.20	2.24	2.27	2.31	2.35
18,000	2.16	2.19	2.22	2.26	2.29	2.32
20,000	2.15	2.18	2.21	2.24	2.27	2.30
22,000	2.15	2.18	2.21	2.23	2.26	2.29
24,000	2.15	2.17	2.20	2.22	2.25	2.27
26,000	2.15	2.17	2.19	2.22	2.24	2.26
28,000	2.14	2.17	2.19	2.21	2.23	2.25
30,000	2.14	2.16	2.18	2.20	2.22	2.24

Assuming the truck will be utilized for other uses during off months. Source: Computed from Table 3 and Appendix Table 5.

Table 17  
Total Costs Per Animal-Unit-Mile For A Five-Year-Old  
1 1/2-Ton Truck Transporting Eight Animal Units of  
Livestock For Selected Months of Use and Annual  
Mileages, West Virginia, 1970<sup>a</sup>

Total Miles Driven Annually Transporting Livestock	Months of Utilization				
	1	2	3	4	5
	<u>cents</u>				
500	2.49	3.40	4.30	5.20	6.10
1,000	2.04	2.49	2.95	3.40	3.85
1,500	1.89	2.19	2.49	2.80	3.10
2,000	1.82	2.04	2.27	2.49	2.72
4,000	1.71	1.82	1.93	2.04	2.16
6,000	1.67	1.74	1.82	1.89	1.97
8,000	1.65	1.71	1.76	1.82	1.87
10,000	1.64	1.68	1.73	1.77	1.82
12,000	1.63	1.67	1.71	1.74	1.78
14,000	1.62	1.66	1.69	1.72	1.75
16,000	1.62	1.65	1.68	1.71	1.73
18,000	1.62	1.64	1.67	1.69	1.72
20,000	1.62	1.64	1.66	1.68	1.71
22,000	1.61	1.63	1.65	1.67	1.70
24,000	1.61	1.63	1.65	1.67	1.69
26,000	1.61	1.63	1.64	1.66	1.68
28,000	1.61	1.62	1.64	1.66	1.67
30,000	1.61	1.62	1.64	1.65	1.67

<sup>a</sup> Assuming the truck will be utilized for other uses during off months. Source: Comp from Table 3 and Appendix Table 5.



Table 18

Total Costs Per Animal-Unit-Mile For A Seven-Year-Old  
1 1/2-Ton Truck Transporting Two Animal Units of  
Livestock For Selected Months of Use and Annual  
Mileages, West Virginia, 1970<sup>a</sup>

Miles Transported Annually	Months of Utilization					
	1	2	3	4	5	6
	cents					
500	9.38	12.38	15.39	18.40	21.41	24.41
1,000	7.87	9.38	10.88	12.38	13.89	15.39
1,500	7.37	8.37	9.38	10.38	11.38	12.38
2,000	7.12	7.87	8.63	9.38	10.13	10.88
4,000	6.75	7.12	7.50	7.87	8.25	8.63
6,000	6.62	6.87	7.12	7.37	7.62	7.87
8,000	6.56	6.75	6.93	7.12	7.31	7.50
10,000	6.52	6.67	6.82	6.97	7.12	7.27
12,000	6.50	6.62	6.75	6.87	7.00	7.12
14,000	6.48	6.58	6.69	6.80	6.91	7.01
16,000	6.46	6.56	6.65	6.75	6.84	6.93
18,000	6.45	6.54	6.62	6.70	6.79	6.87
20,000	6.45	6.52	6.60	6.67	6.75	6.82
22,000	6.44	6.51	6.57	6.64	6.71	6.78
24,000	6.43	6.50	6.56	6.62	6.68	6.75
26,000	6.43	6.49	6.54	6.60	6.66	6.72
28,000	6.42	6.48	6.53	6.58	6.64	6.69
30,000	6.42	6.47	6.52	6.57	6.62	6.67

assuming the truck will be utilized for other uses during off months. Source: Computed from Table 3 and Appendix Table 5.

Table 19

Total Miles Driven Annually	Months of Utilization					
Transporting Livestock	1	2	3	4	5	6
	<u>cents</u>					
500	4.69	6.19	7.70	9.20	10.70	12.20
1,000	3.94	4.69	5.44	6.19	6.94	7.69
1,500	3.69	4.19	4.69	5.19	5.69	6.19
2,000	3.56	3.94	4.31	4.69	5.06	5.44
4,000	3.37	3.56	3.75	3.94	4.12	4.31
6,000	3.31	3.44	3.56	3.69	3.81	3.94
8,000	3.28	3.37	3.47	3.56	3.65	3.75
10,000	3.26	3.34	3.41	3.49	3.56	3.63
12,000	3.25	3.31	3.37	3.44	3.50	3.56
14,000	3.24	3.29	3.35	3.40	3.45	3.50
16,000	3.23	3.28	3.33	3.37	3.42	3.47
18,000	3.23	3.27	3.31	3.35	3.39	3.43
20,000	3.22	3.26	3.30	3.34	3.37	3.41
22,000	3.22	3.25	3.29	3.32	3.36	3.39
24,000	3.22	3.25	3.28	3.31	3.34	3.37
26,000	3.21	3.24	3.27	3.30	3.33	3.36
28,000	3.21	3.24	3.27	3.29	3.32	3.35
30,000	3.21	3.24	3.26	3.29	3.31	3.34

<sup>a</sup> Assuming the truck will be utilized for other uses during off months. Source: Computed from Table 3 and Appendix Table 5.

Table 20

Total Costs Per Animal-Unit-Mile For A Seven-Year-Old  
1 1/2-Ton Truck Transporting Six Animal Units of  
Livestock For Selected Months of Use and Annual  
Mileages, West Virginia, 1970<sup>a</sup>

Miles Traveled Annually Starting Month	Months of Utilization					
	1	2	3	4	5	6
	<u>cents</u>					
500	3.13	4.13	5.13	6.13	7.14	8.14
,000	2.62	3.13	3.63	4.13	4.63	5.13
,500	2.46	2.79	3.13	3.46	3.79	4.13
,000	2.37	2.62	2.88	3.13	3.38	3.63
,000	2.25	2.37	2.50	2.62	2.75	2.88
,000	2.21	2.29	2.37	2.46	2.54	2.62
,000	2.19	2.25	2.31	2.37	2.44	2.50
,000	2.17	2.22	2.27	2.32	2.37	2.42
,000	2.17	2.21	2.25	2.29	2.33	2.37
,000	2.16	2.19	2.23	2.27	2.30	2.34
,000	2.15	2.19	2.22	2.25	2.28	2.31
,000	2.15	2.18	2.21	2.23	2.26	2.29
,000	2.15	2.17	2.20	2.22	2.25	2.27
,000	2.15	2.17	2.19	2.21	2.24	2.26
,000	2.14	2.17	2.19	2.21	2.23	2.25
,000	2.14	2.16	2.18	2.20	2.22	2.24
,000	2.14	2.16	2.18	2.19	2.21	2.23
,000	2.14	2.16	2.17	2.19	2.21	2.22

Assuming the truck will be utilized for other uses during off months. Source: Computed from Table 5 and Appendix Table 5.

Table 21

Total Costs Per Animal-Unit-Mile For A Seven-Year-Old  
1 1/2-Ton Truck Transporting Eight Animal Units of  
Livestock For Selected Months of Use and Annual  
Mileages, West Virginia, 1970<sup>a</sup>

Total Miles Driven Annually Transporting Livestock	Months of Utilization				
	1	2	3	4	5
	<u>cents</u>				
500	2.34	3.10	3.85	4.60	5.35
1,000	1.97	2.34	2.72	3.10	3.47
1,500	1.84	2.09	2.34	2.59	2.85
2,000	1.78	1.97	2.16	2.34	2.53
4,000	1.69	1.78	1.87	1.97	2.06
6,000	1.66	1.72	1.78	1.84	1.91
8,000	1.64	1.69	1.73	1.78	1.83
10,000	1.63	1.67	1.71	1.74	1.78
12,000	1.62	1.66	1.69	1.72	1.75
14,000	1.62	1.65	1.67	1.70	1.73
16,000	1.62	1.64	1.66	1.69	1.71
18,000	1.61	1.63	1.66	1.68	1.70
20,000	1.61	1.63	1.65	1.67	1.69
22,000	1.61	1.63	1.64	1.66	1.68
24,000	1.61	1.62	1.64	1.66	1.67
26,000	1.61	1.62	1.64	1.65	1.66
28,000	1.61	1.62	1.63	1.65	1.66
30,000	1.61	1.62	1.63	1.64	1.66

<sup>a</sup> Assuming the truck will be utilized for other uses during off months. Source: Computed from Table 3 and Appendix Table 5.









